AMENDMENTS TO THE CLAIMS

1. (Currently amended): A process for the production of a β-lactam, comprising the steps of:

a) fermenting on a volume scale of at least 10 m^3, a microbial strain that produces a β-lactam in a fermentation medium [[which contains only chemically defined constituents as carbon and nitrogen sources and contains no complex raw materials]] consisting essentially of chemically defined constituents, and

b) recovering the β-lactam from the fermentation medium.

2. (Canceled)

3. (Previously presented): The process of claim 1, wherein the chemically defined constituents comprise a carbon source selected from the group consisting of glucose, lactose, fructose, sucrose, a maltodextrin, starch inulin, glycerol, a vegetable oil, a hydrocarbon, an alcohol, and an organic acid; and a nitrogen source selected from the group consisting of urea, ammonia, nitrate, an ammonium salt and an amino acid.

4. (Previously presented): The process of claim 3, wherein the carbon source is glucose and the nitrogen source is ammonia and/or an ammonium salt.

5. (Previously presented): The process of claim 1, wherein said fermenting is via a batch, a repeated batch, a fed-batch, a repeated fed-batch or a continuous fermentation process.

6. (Previously presented): The process of claim 5, wherein fermenting is via a fed-batch process.

7. (Previously presented): The process of claim 6, wherein a carbon and a nitrogen source is fed to the process.

8. (Previously presented): The process of claim 7, wherein the carbon source is glucose and the nitrogen source is ammonia and/or an ammonium salt.

9-14. (Canceled)

15. (Previously presented): The process of claim 1, wherein the microbial strain is a filamentous microbial strain.

16. (Previously presented): The process of claim 15, wherein the filamentous strain is a fungus.

17-18. (Canceled)

19. (Previously presented): The process of claim 16, wherein the fungus is a Penicillium strain.

20. (Previously presented): The process of claim 19, wherein the fungus is *Penicillium chrysogenum*.

21-35. (Canceled)

36. (Previously presented): The process of claim 19 wherein the β-lactam is penicillin V.

37. (Previously presented): The method of claim 19 wherein the β-lactam is adipoyl-7-ADCA.

38. (Withdrawn): A process for the production of a β-lactam, comprising the steps of:

a) fermenting on a volume scale of at least 10 m^3, a microbial strain that produces a β-lactam in a fermentation medium which contains only chemically defined components as carbon and nitrogen sources and contains no complex raw materials, and

b) recovering the β-lactam from the fermentation medium,

wherein the microbial strain is a mutated or recombinant β-lactam producing strain that is capable of being fermented on said volume scale and that has been selected for improved performance on the medium and/or increased β-lactam production in comparison to a parent strain.

39. (Withdrawn): A process for the production of a β-lactam, comprising the steps of:

a) fermenting on a volume scale of at least 10 m^3, a microbial strain that produces a β-lactam in a fermentation medium which contains chemically defined components and a complex carbon and/or nitrogen source which is less than 10% of the total carbon and/or nitrogen sources in the medium, and

b) recovering the β-lactam from the fermentation medium,

wherein the microbial strain is a mutated or recombinant β-lactam producing strain that is capable of being fermented on said volume scale and that has been selected for improved performance on the medium and/or increased β-lactam production in comparison to a parent strain.

40. (Withdrawn): The process of claim 38, wherein the chemically defined components comprise a carbon source selected from the group consisting of glucose, lactose, fructose, sucrose, a maltodextrin, starch inulin, glycerol, a vegetable oil, a hydrocarbon, an alcohol, an organic acid, and/or a nitrogen source selected from the group consisting of urea, ammonia, nitrate, an ammonium salt and an amino acid.

41. (Withdrawn): The process of claim 40, wherein the carbon source is glucose and the nitrogen source is ammonia and/or an ammonium salt.

42. (Withdrawn): The process of claim 38, wherein said fermenting is via a batch, a repeated batch, a fed-batch, a repeated fed-batch or a continuous fermentation process.

43. (Withdrawn): The process of claim 42, wherein fermenting is via a fed-batch process.

44. (Withdrawn): The process of claim 43, wherein a carbon and/or a nitrogen source is fed to the process.

45. (Withdrawn): The process of claim 44, wherein the carbon source is glucose and the nitrogen source is ammonia and/or an ammonium salt.

46. (Withdrawn): The process of claim 38, wherein the microbial strain is a filamentous microbial strain.

47. (Withdrawn): The process of claim 46, wherein the filamentous strain is a fungus.

48. (Withdrawn): The process of claim 47, wherein the fungus is a Penicillium strain.

49. (Withdrawn): The process of claim 48, wherein the fungus is *Penicillium chrysogenum*.

50. (Withdrawn): The process of claim 48 wherein the β-lactam is penicillin V.

51. (Withdrawn): The method of claim 48 wherein the β-lactam is adipoyl-7-ADCA.

52. (Currently amended): A process for the production of a β-lactam, comprising the steps of:

a) fermenting on a volume scale of at least 10 m^3, a microbial strain that produces a β-lactam in a fermentation medium [[which contains only chemically defined constituents as carbon and nitrogen sources and contains no complex raw materials]] consisting essentially of chemically defined constituents, and

b) recovering the β-lactam from the fermentation medium,

wherein the chemically defined constituents comprise a carbon source selected from the group consisting of glucose, lactose, fructose, sucrose, a maltodextrin, starch inulin, glycerol, a vegetable oil, and a hydrocarbon; and a nitrogen source selected from the group consisting of urea, ammonia, nitrate, an ammonium salt and an amino acid.

53. (Previously presented): The process of claim 52, wherein the carbon source is glucose and the nitrogen source is ammonia and/or an ammonium salt.

54. (Previously presented): The process of claim 52, wherein said fermenting is via a batch, a repeated batch, a fed-batch, a repeated fed-batch or a continuous fermentation process.

55. (Previously presented): The process of claim 54, wherein fermenting is via a fed-batch process.

56. (Previously presented): The process of claim 52, wherein a carbon and a nitrogen source is fed to the process.

57. (Previously presented): The process of claim 56, wherein the carbon source is glucose and the nitrogen source is ammonia and/or an ammonium salt.

58. (Previously presented): The process of claim 52, wherein the microbial strain is a filamentous microbial strain.

59. (Previously presented): The process of claim 58, wherein the filamentous strain is a fungus.

60. (Previously presented): The process of claim 59, wherein the fungus is a Penicillium strain.

61. (Previously presented): The process of claim 60, wherein the fungus is Penicillium chrysogenum.

62. (Previously presented): The process of claim 59 wherein the β-lactam is penicillin V.

63. (Previously presented): The method of claim 59 wherein the β-lactam is adipoyl-7-ADCA.64. (Withdrawn): A process for the production of a β-lactam, comprising the steps of:

a) fermenting on a volume scale of at least 10 m^3, a microbial strain that produces a β-lactam in a fermentation medium which contains chemically defined components and a complex carbon and/or nitrogen source which is less than 10% of the total carbon and/or nitrogen sources in the medium, and

b) recovering the β-lactam from the fermentation medium.